

(19)



JAPANESE PATENT OFFICE

PATENT ABSTRACTS OF JAPAN

(11) Publication number: **2001283251 A**(43) Date of publication of application: **12.10.01**(51) Int. Cl. **G06T 15/00**(21) Application number: **2001052884**(22) Date of filing: **27.02.01**(30) Priority: **28.02.00 US 2000 514546**(71) Applicant: **MITSUBISHI ELECTRIC
RESEARCH LABORATORIES INC**(72) Inventor: **PFISTER HANSPETER
ZWICKER MATTHIAS B
VAN BAAR JEROEN
GROSS MARKUS H**(54) **METHOD AND DEVICE FOR RENDERING
GRAPHIC OBJECT**nodes of the octree from the lowest resolution level
to the highest one.

(57) Abstract:

COPYRIGHT: (C)2001,JPO

PROBLEM TO BE SOLVED: To obtain a method and a device for rendering a graphic object capable of converting the graphic object into a surface element for any object.

SOLUTION: A pipeline is provided with a memory to store the shape of the surface and shade attributes of the object. Attributes are arranged in an octree in a memory. The octree is provided with nodes arranged at plural levels, each node stores plural zero-dimensional sets consisting of n elements, the set locally approximates the shape and the shade attributes of a part of the surface of the graphic object and the sets consisting of n elements are provided with sampling resolution of an image space. Plural parallel processing pipelines are coupled with a memory. The pipeline projects the shape and the shade attributes of the octree on an image surface with a selected direction by traversing the sets consisting of n elements of the

